PATENT
Attorney Docket No.: 16869B-080600US
Client Ref. No.: HAL268
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: YUICHI YAGAWA et al. Application No.: 10/796,454 Filed: March 8, 2004 For: POINT IN TIME REMOTE COPY FOR MULTIPLE SITES Customer No.: 20350	Examiner: Mano Padmanabhan Technology Center/Art Unit: 2188 Confirmation No.: 2420 **PETITION TO MAKE SPECIAL FOR NEW APPLICATION UNDER M.P.E.P. § 708.02, VIII & 37 C.F.R. § 1.102(d)**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is a petition to make special the above-identified application under MPEP § 708.02, VIII & 37 C.F.R. § 1.102(d). The application has not received any examination by an Examiner.

(a) The Commissioner is authorized to charge the petition fee of $130 under 37 C.F.R. § 1.17(i) and any other fees associated with this paper to Deposit Account 20-1430.

(b) All the claims are believed to be directed to a single invention. If the Office determines that all the claims presented are not obviously directed to a single invention, then Applicants will make an election without traverse as a prerequisite to the grant of special status.

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(c) Pre-examination searches were made of U.S. issued patents, including a classification search and a key word search. The classification search was conducted on or around June 13, 2005 covering Class 707 (subclasses 104.1, 201, 203, and 204), Class 709 (subclasses 217-219, 222, 224, and 246), Class 711 (subclasses 100, 111, 112, 133, 136, 141, 154, 159-162, 167, and 168), Class 713 (subclass 502), and Class 714 (subclasses 6, 12, and 20), by a professional search firm, Mattingly, Stanger, Malur & Brundidge, P.C. The key word search was performed on the USPTO full-text database including published U.S. patent applications. A search for foreign art was also conducted using the European Patent Office's ESPACENET database and Japanese patent database.

(d) The following references, copies of which are attached herewith, are deemed most closely related to the subject matter encompassed by the claims:

(1) U.S. Patent No. 5,799,322;

(2) U.S. Patent No. 6,038,569;

(3) U.S. Patent No. 6,338,114;

(4) U.S. Patent No. 6,463,501 B1;

(5) U.S. Patent No. 6,477,617 B1;

(6) U.S. Patent Publication No. 2003/0005235 A1;

(7) U.S. Patent No. 6,594,744 B1;

(8) U.S. Patent No. 6,611,901 B1; and

(9) U.S. Patent Publication No. 2004/0030837 A1.

(e) Set forth below is a detailed discussion of references which points out with particularity how the claimed subject matter is distinguishable over the references.

A. Claimed Embodiments of the Present Invention

The claimed embodiments relate to a data storage system, more particularly to a storage system for performing remote copies to multiple sites. Data is transmitted from a first volume in a primary storage system to a back-up volume provided in a secondary storage

system. The data from the first volume in the primary storage system is copied to a second volume in the primary storage system using a point in time (PiT) as a reference point of time for the copying.

Independent claim 1 recites a method for copying data to multiple remote sites. The method comprises transmitting data from a first volume in a primary storage system to a back-up volume provided in a secondary storage system, the primary storage system being located at a primary site and the secondary storage system being located at a first remote site from the primary site; copying the data from the first volume in the primary storage system to a second volume in the primary storage system using a point in time (PiT) as a reference point of time for the copying, the second volume being provided with a first time consistent image of the first volume with respect to the reference point of time; and transferring the data from the second volume in the primary storage system to a third volume in a ternary storage system at a second remote site, the third volume being provided with a second time consistent image of the second volume, which is substantially the same as the first time consistent image.

Independent claim 15 recites a method for copying data to a remote site. The method comprises copying data from a first volume to a second volume to provide the second volume with a first time consistent image with respect to a first given time, the first and second volumes being provided in a first storage system; and transferring the data from second volume to a third volume to provide the third volume with a second time consistent image with respect to a second given time, the third volume being provided in a second storage system that is located at least 10 miles from the first storage system.

Independent claim 19 recites a computer system, comprising a timer to provide a timestamp to data requests; an interface configured to form a communication link with a first storage sub-system; and a computer storage medium. The computer storage medium includes code for initiating copying of data from a first volume to a second volume to provide the second volume with a first time consistent image with respect to a first given time, the first and second volumes being provided in a first storage sub-system, and code for initiating transferring of the data from second volume to a third volume to provide the third volume with a second time consistent image with respect to a second given time, the third

volume being provided in a second storage system that is located at least 10 miles from the first storage sub-system.

Independent claim 21 recites a computer readable medium for use in a storage system. The medium comprises code for copying data from a first volume to a second volume to provide the second volume with a first time consistent image with respect to a first given time, the first and second volumes being provided in a first storage system; and code for transferring the data from second volume to a third volume to provide the third volume with a second time consistent image with respect to a second given time, the third volume being provided in a second storage system that is located at least 10 miles from the first storage system.

Independent claim 23 recites a method for copying a volume in a storage system. The method comprises checking a first timestamp of a first data to be copied from a first volume to a second volume; copying the first data to the second volume if the first timestamp is prior to a given reference point; checking a second timestamp of a second data to be copied from the first volume to the second volume; suspending the copy operation if the second timestamp is after the reference point; and placing the second volume in a Freeze mode to indicate that the second volume includes a point in time (PiT) copy of the first volume.

Independent claim 25 recites a method for providing a point in time remote copy to a remote storage system. The method comprises transmitting first and second data with the first and second timestamps from a first volume in a primary storage system to a second volume provided in a secondary storage system, the primary storage system being located at a primary site and the secondary storage system being located at a first remote site from the primary site, the first and second time stamps being associated with the first and second data, respectively; copying the first data from the second volume to a third volume provided in the secondary storage system using a point in time (PiT) as a reference point of time for the copying; and transferring the first data from the third volume in the secondary storage system to a fourth volume in a ternary storage system at a second remote site. The copying step is suspended if the second timestamp of the second data does not satisfy the reference point of time.

Independent claim 26 recites a method for providing a point in time remote copy. The method comprises checking a first timestamp of a first data to be copied from a first volume to each of second and third volumes, the first, second, and third volumes being provided in the same storage system; copying the first data to the second and third volumes if the first timestamp is prior to a given reference point; remote copying the first data from the second and third volumes to fourth and fifth volumes, respectively; transmitting the first data from the fourth and fifth volumes to six and seventh volumes, respectively, wherein the fourth and six are provided in a first remote storage system and the fifth and seventh volumes are provided in a second remote storage system; checking a second timestamp of a second data to be copied from the first volume to the second and third volumes; and placing the second and third volumes in a Freeze mode to indicate that the second volume includes a point in time (PiT) copy of the first volume if the second timestamp of the second data to be copied from the first volume to the second and third volumes is after the reference point.

One of the benefits that may be derived is that it provides data consistency among multiple storage systems.

B. Discussion of the References

1. U.S. Patent No. 5,799,322

The patent to Mosher, Jr., US 5799322, discloses a system and method for stopping updates at a specified timestamp in a remote duplicate database facility. A primary computer system 110 has a database, application programs that modify the local database, and a transaction manager that stores audit records in a local audit trail reflecting those application program modifications to the local database. A plurality of parallel backup systems 220 are used to provide "triple contingency protection" of the data on the primary computer system. See column 10, lines 38-58. However, if the primary system suffers a sudden catastrophic failure, the parallel backup systems will generally be left in inconsistent states. To restart the application programs on one of the backup system, the parallel backup are first synchronized with each other, and then transaction processing is restarted with one of the backup systems as the new primary system, and the other backup systems as the backups to the new primary system. See column 26, lines 55-67. On the primary computer system 110, an RDF (remote data facility) Extractor process 130 reads the master audit trail (MAT)

104 which is a log maintained by the transaction management facility of all database transactions that affect audited files, and sends any audit records associated with RDF-protected volumes to an RDF receiver process 132 on the backup computer system. See column 6, lines 59-65. The Extractor process 130 adds a timestamp to each audit record that it extracts from the master audit trail 104 and determines is for a protected volume. The added timestamp is the timestamp of the last transaction to complete prior to generation of the audit record in the MAT 104. See column 7, lines 7-16.

Mosher, Jr. discloses adding a timestamp to each audit record in the primary system and sending the audit records to the backup system. It does not, however, relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Mosher, Jr. fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

2. U.S. Patent No. 6,038,569

The patent to Beavin et al., US 6038569, discloses a system for data structure loading with concurrent image copy. Data are loaded to a data structure while an image copy of the data structure is concurrently formed. After data records are obtained from one or more data sources, each of the data records is associated with one of multiple pages. Timestamps mark the time at which each page are made; image copy pages include the same timestamp as their respective primary pages. The timestamps help to distinguish different versions of the same page. See column 5, lines 7-15. Upon detecting a data structure failure,

each page of the image copy is sequentially reviewed. For each image page being reviewed, the page's timestamp is compared with the timestamp of the corresponding page from the primary data structure. The page is copied from the image copy to the primary data structure only if the timestamp comparison indicates that the image page is more recent than the page from the primary data structure. See column 6, lines 24-33; column 7, lines 7-16.

Beavin et al. discloses the use of timestamps to distinguish different versions of the same page in data records and to identify the most recent version. It does not, however, relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Beavin et al. fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

3. U.S. Patent No. 6,338,114

The patent to Paulsen et al., US 6338114, discloses a method, system, program, and memory for erasing data. A point-in-time copy function provides copy data structures that indicate data at source storage locations to copy to corresponding target source storage locations. The indication to copy with respect to the source and target storage locations is eliminated when the data is copied from the source storage location to the corresponding target storage location. The code associated with each grouping that includes the point-in-time copy function eliminates the indication to copy in the copy data structures for any source and target storage locations subject to the erase command. See column 2, lines 1-11; column 6, lines 34-46.

Paulsen et al. discloses a point-in-time function to copy data from source storage location to target source locations, in which the indication to copy is eliminated for locations subject to the erase command. It does not relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Paulsen et al. fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

4. U.S. Patent No. 6,463,501 B1

The patent to Kern et al., US 6463501, discloses a system, method, and program for maintaining data consistency among updates to data storage areas are provided. Each update has an update time the update was made. There are multiple groups of data storage areas. For each group, updates to the data storage area in the group are stored in a journal for storing updates to the group, wherein there are multiple journals. An indication is made in a memory area for each group of a group update time comprising a most recent update time of the updates in the group. The update time for each update in the group is not greater than the group update time. A determination is made of a minimum group update time across all the groups. At least one update is applied to storage if the update time for the update does not exceed the minimum group update time. The logic of FIG. 5 considers the minimum of the most recent updates to each session of the sessions as defined by the storage spaces. This ensures that when updates within one consistency group are applied to the secondary volume, the journal maintains all updates across all sessions that occur prior to the time of the update being applied. In this way, if a failure occurs, updates can be recovered

from the journal such that the recovered updates across all sessions are consistent as of a single point-in-time. See column 7, line 65 to column 8, line 38.

Kern et al. discloses utilizing group update time and consistency group to maintain consistency as of a single point-in-time. It does not, however, relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Kern et al. fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

5. U.S. Patent No. 6,477,617 B1

The patent to Golding, US 6477617, discloses a storage system for storing and retrieving data records. The system includes a storage medium, a controller, and a message log. The storage medium stores data records, the data records being indexed by addresses which specify the location of the data records in the storage medium. The controller receives write messages from processors coupled to the controller. Periodically, the controller reads the timestamps of the messages in the log and compares the timestamps to a clock in the controller to determine the message having the oldest timestamp. If the oldest message has a timestamp that is less than the controller's clock value by more than a predetermined amount, the controller writes the data segment contained in the message to the storage medium at the specified address in the message. More specifically, each disk receiving a message compares the message timestamp t to the disk's local clock c to determine if the message was sent within a reasonable time frame. If the message is too old, the receiving disk will discard the message. Similarly, if the message is too new, there could be a timing synchronization

problem. Hence, the recipient disk tests to see if timestamp on the message is more than T seconds older than c (that is, $c>t+T$). Similarly, the recipient disk checks for a message that is too new ($t>c+\Delta t$), wherein Δt is the maximum allowed difference among clocks. See column 5, lines 11-23.

Golding discloses checking the message timestamp of a message to determine if the message is too new or too old, and discarding messages that are too new or too old. It does not relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Golding fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

6. U.S. Patent Publication No. 2003/0005235 A1

The published patent application of Young, 20030005235, discloses a system for providing a copy of data at a point in time, that has a data storage device including a master store 6 arranged to store blocks of data, at least one subsidiary store 8 to store point in time copy data having blocks of data copied from said master store at a particular point in time, and a bitmap store 10 associated with each the subsidiary store to store data indicating when a data block of the master store differs from a corresponding data block stored in the associated subsidiary store. Where more than one subsidiary stores and associated bitmap stores are provided, a controller 4 may make different point in time copies in different subsidiary stores. A number of master stores may also be provided, each associated with a corresponding subsidiary store and a bitmap store. In this case, the controller may ensure that

point in time copies of all the master stores are made at the same point in time. See paragraph [0105]. A point in time copy function enables multiple point in time copies to be taken of data stored by a master store, to be maintained independently of the master store, and to each be maintained independently of the other point in time copies. See paragraphs [0008] and [0107].

Young discloses making different point in time copies in different subsidiary stores. It does not, however, relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Young fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

7. U.S. Patent No. 6,594,744 B1

The patent to Humlicek, US 6594744, discloses managing a snapshot volume or one or more checkpoint volumes with multiple point-in-time images in a single repository. In a storage system, such as a storage area network, a snapshot volume or one or more checkpoint volumes are formed from the same base volume using a single repository containing multiple images of data stored in the base volume. The blocks of data are copied only into the most recently created image within the repository. With the creation of each checkpoint volume, a new image is concurrently started in the same repository. Each checkpoint volume is dependent on the image that was created concurrently plus any images created thereafter. More specifically, the snapshot volume 132 represents the state of the data in the corresponding base volume 130 at the point in time when the snapshot volume 132 was

created. A data access request that is directed to the snapshot volume 132 will be satisfied by data either in the snapshot repository 136 or in the base volume 130. Thus, the snapshot volume 132 does not contain any of the data. Rather, the snapshot volume 132 includes identifiers for the corresponding base volume 130, snapshot repository 136 and the point-in-time images within the snapshot repository 136. See column 6, lines 39-61.

Humlicek et al. discloses managing a snapshot volume that includes point-in-time images within the snapshot repository. It does not, however, relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Humlicek et al. fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

8. U.S. Patent No. 6,611,901 B1

The patent to Micka et al., US 6611901, discloses a method, system, program, and data structures for maintaining electronic data at a point-in-time. A first data structure indicates point-in-time data at one of a first storage location and a corresponding second storage location. A second data structure indicates point-in-time data at one of a first storage location and corresponding second storage location. A first relationship data structure indicates a relationship between the first storage location and corresponding second storage location and a second relationship data structure indicates a relationship between the first storage location and second storage location. A request to process the first storage location is processed by processing the first relationship data structure to determine the corresponding second storage location for the first storage location and processing the first data structure to

determine whether data at the first storage location was transferred to the second storage location. A request to process the second storage location is processed by processing the second relationship data structure to determine the corresponding first storage location for the second storage location and processing the second data structure to determine whether the point-in-time data at the first storage location was transferred to the second storage location. See column 13, line 61 to column 14, line 16. The reference provides data structures, including relationship tables and bit maps, that are used to establish a copy of data from source to target locations at a point-in-time without having to physically copy the data from the source to target locations. Instead, relationship information is manipulated to indicate the location of the point-in-time data. See column 12, lines 61-67.

Micka et al. discloses data structures that indicate point-in-time data at two storage locations, and a technique to avoid I/O operations to physically copy all the data from the source location to the target location. It does not, however, relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Micka et al. fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

9. U.S. Patent Publication No. 2004/0030837 A1

The published patent application of Geiner et al., 20040030837, discloses Adjusting timestamps to preserve update timing information for cached data objects. In a system 100 including a host (110, 112, 114), a primary storage subsystem 104 coupled to the host, a cache coupled to the host and separate from the primary storage system, a secondary

storage subsystem 106, and a data mover 108 coupling the primary and secondary storage systems, data is temporarily cached for future storage in the primary storage subsystem so as to preserve timestamp information and maintain data consistency for asynchronously mirroring the data at a secondary subsystem. The host designates, receives, or otherwise identifies various data objects for storage in the primary storage subsystem. The host stores some of the identified data objects in the cache 128 with an original timestamp correlated to the time of storage in cache. For other data objects, the host sends them directly to the primary subsystem 136 for storage, and the primary storage system responds by storing these data objects in association with current timestamps correlated to a time of storage in the primary storage subsystem. See paragraphs [0063]-[0066].

Geiner et al. discloses adjusting timestamps to preserve update timing information for cached data objects. It does not relate to transferring data from a second volume provided with a second time consistent image or suspending copying of second data with a second timestamp to a second volume. More specifically, Geiner et al. fails to teach transferring data from the second volume (which is copied from the first volume in a first system and is provided with a first time consistent image of the first volume) to a third volume in another system at a remote site, wherein the third volume is provided with a second time consistent image of the second volume, as recited in independent claims 1, 15, 19, and 21; or copying first data to a second volume if a first timestamp of the first data is prior to a reference point, and suspending copying of second data to the second volume if the second timestamp of the second data is after the reference point, as recited in independent claims 23 and 25; or copying the first data to second and third volumes if a first timestamp of the first data is prior to a reference point, and placing the second and third volumes in a Freeze mode if the second timestamp of a second data to be copied to the second and third volumes is after the reference point, as recited in independent claim 26.

(f) In view of this petition, the Examiner is respectfully requested to issue a first Office Action at an early date.

Respectfully submitted,

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Filing Date	March 8, 2004
First Named Inventor	Yagawa, Yuichi
Art Unit	2188
Examiner Name	Mano Padmanabhan
Attorney Docket Number	16869B-080600US

ENCLOSURES *(Check all that apply)*

- ☒ Petition Fee Transmittal
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☒ Petition to Make Special
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) (please identify below):
  - Return Postcard
  - Nine (9) cited references

Remarks The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Townsend and Townsend and Crew LLP		
Signature			
Printed name	Chun-Pok Leung		
Date	October 24, 2005	Reg. No.	41,405

CERTIFICATE OF TRANSMISSION/MAILING

Express Mail Label: **EV 529865188 US**

I hereby certify that this correspondence is being deposited with the United States Postal Service with "Express Mail Post Office to Address" service under 37 CFR 1.10 on this date **October 24, 2005** and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Signature			
Typed or printed name	Joy Salvador	Date	October 24, 2005

PTO/SB/17p (11-04)

PETITION FEE
Under 37 CFR 1.17(f), (g) & (h)
TRANSMITTAL

(Fees are subject to annual revision)

Send completed form to: Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

Application Number	10/796,454
Filing Date	March 8, 2004
First Named Inventor	Yagawa, Yuichi
Art Unit	2188
Examiner Name	Mano Padmanabhan
Attorney Docket Number	16869B-080600US

Enclosed is a petition filed under 37 CFR §1.102(d) that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of $ 130.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. *For transmittal of processing fees under 37 CFR 1.17(i), see or PTO/SB/17i.*

Payment of Fees (small entity amounts are NOT available for the petition fees)

☒ The Commissioner is hereby authorized to charge the following fees to Deposit Account No. 20-1430:

☒ petition fee under 37 CFR 1.17(f), (g) or (h) ☒ any deficiency of fees and credit of any overpayments

Enclose a duplicative copy of this form for fee processing.

☐ Check in the amount of $_____ is enclosed.

☐ Payment by credit card (Form PTO-2038 or equivalent enclosed). Do not provide credit card information on this form.

Petition Fees under 37 CFR 1.17(f): Fee $400 Fee Code 1462

For petitions filed under:

§ 1.53(e) - to accord a filing date.
§ 1.57(a) - to accord a filing date.
§ 1.182 - for decision on a question not specifically provided for.
§ 1.183 - to suspend the rules.
§ 1.378(e) - for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.
§ 1.741(b) - to accord a filing date to an application under § 1.740 for extension of a patent term.

Petition Fees under 37 CFR 1.17(g): Fee $200 Fee Code 1463

For petitions filed under:

§ 1.12 - for access to an assignment record.
§ 1.14 - for access to an application.
§ 1.47 - for filing by other than all the inventors or a person not the inventor.
§ 1.59 - for expungement of information.
§ 1.103(a) - to suspend action in an application.
§ 1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.
§ 1.295 - for review of refusal to publish a statutory invention registration.
§ 1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.
§ 1.377 - for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.
§ 1.550(c) - for patent owner requests for extension of time in ex parte reexamination proceedings.
§ 1.956 - for patent owner requests for extension of time in inter partes reexamination proceedings.
§ 5.12 - for expedited handling of a foreign filing license.
§ 5.15 - for changing the scope of a license.
§ 5.25 - for retroactive license.

Petition Fees under 37 CFR 1.17(h): Fee $130 Fee Code 1464

For petitions filed under:

§ 1.19(g) - to request documents in a form other than that provided in this part.
§ 1.84 - for accepting color drawings or photographs.
§ 1.91 - for entry of a model or exhibit.
✓ **§ 1.102(d)** - to make an application special.
§ 1.138(c) - to expressly abandon an application to avoid publication.
§ 1.313 - to withdraw an application from issue.
§ 1.314 - to defer issuance of a patent.

Signature	October 24, 2005
	Date
Chun-Pok Leung	41,405
Typed or printed name	Registration No., if applicable